Amendments to the Specification:

Please replace the paragraph beginning at page 5, line 17 and ending at page 5, line 30, with the following rewritten paragraph:

--In another aspect of the invention there is provided a ~~diffraction binding assay~~ method for detecting simultaneously at least two analytes, in a medium, using light diffraction, comprising:

providing a substrate including a surface and on said surface a first pre-selected pattern of ~~a~~ first analyte-specific receptors and at least a second pre-selected pattern ~~comprising~~ including ~~a~~ second analyte-specific receptors, ~~each said pattern corresponding to a diffraction pattern distinct from each other~~ wherein each of said pre-selected patterns on said surface is distinct and, when bound to an analyte, gives rise to a pre-selected diffraction pattern distinct from diffraction patterns formed from all other unbound and bound pre-selected patterns on the surface;

contacting said surface of the substrate with the medium for a sufficient time to permit ~~preselected~~ analytes present in ~~solution~~ the medium to bind ~~with~~ to their associated analyte-specific receptors; and

illuminating said substrate and detecting ~~light~~ , at a position spaced from the substrate surface, an image of diffracted light from said substrate surface and analysing the image of diffracted light for the presence or absence of each of said pre-selected ~~a~~ diffraction ~~image~~ patterns representative of binding of ~~one or more~~ said analytes ~~with~~ to their associated analyte-specific receptors and identifying from said ~~diffraction~~ image ~~one or more~~ of diffracted light the presence or absence of said analytes ~~present~~ in said medium.

On page 6, prior line 4, please insert the following two new paragraphs:

--In another aspect of the invention there is provided a method for detecting simultaneously at least two analytes in a medium using light diffraction, comprising:

providing a substrate including a surface comprising glass, mica, polished silicon, silicon dioxide, a polymeric material, or a substantially transparent polymeric material, and on said surface a first pre-selected pattern of a first analyte-specific receptors and at least a second pre-selected pattern including second analyte-specific receptors, wherein each pre-selected pattern, when bound to an analyte, gives rise to a pre-selected-diffraction pattern distinct from diffraction patterns formed from all other unbound and bound pre-selected patterns on the surface;

contacting said surface of said substrate with said medium for a sufficient time to permit analytes present in said medium to bind to their associated analyte-specific receptors; and

illuminating the substrate and detecting, at a position spaced from the substrate surface, an image of diffracted light from said substrate surface and analyzing the image of diffracted light for presence or absence of each of said pre-selected diffraction patterns representative of binding said analytes to their associated analyte-specific receptors and identifying from the image of diffracted light the presence or absence of said analytes in said medium.

In another aspect of the invention there is provided a method for detecting simultaneously at least two analytes in a medium using light diffraction, comprising:

providing a substantially transparent substrate including a surface and on said surface a first pre-selected pattern of first analyte-specific receptors and at least a second pre-selected pattern including second analyte-specific receptors, wherein each of said pre-selected patterns on said surface is distinct and, when bound to an analyte, gives rise to a pre-selected diffraction pattern distinct from diffraction patterns formed from all other unbound and bound pre-selected patterns on the surface;

contacting said surface of said substrate with said medium for a sufficient time to permit analytes present in said medium to bind to their associated analyte-specific receptors; and

illuminating said substrate and detecting, at a position spaced from the substrate surface, an image of diffracted light from said substrate surface and analysing the image of diffracted light for the presence or absence of each of said pre-selected diffraction patterns representative of binding of said analytes to their associated analyte-specific receptors and identifying from the image of diffracted light the presence or absence of said analytes in said medium, wherein said surface is illuminated from one side of said substrate, and wherein said light diffracted from said substrate is detected on the opposite side of said substrate.--